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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,046	04/24/2001	Philippe Antoine	Q63899	3700

7590

02/24/2005

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EXAMINER

KIM, JUNG W

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,046	ANTOINE, PHILIPPE	
	Examiner	Art Unit	
	Jung W Kim	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-10 and 12 is/are rejected.
- 7) ☒ Claim(s) 5, 7 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-12 have been examined. Applicant in the amendment filed on December 1, 2004 amended claims 1-6 and added new claims 7-12. In addition, the title of the application was amended and a substitute specification was received; no new matter was found in the amendment to the specification.

Specification

2. The substitute specification filed December 1, 2004 conforms to 37 CFR 1.125(b) and has been entered.

Response to Amendment

3. The objections to claims 3 and 6 are withdrawn as the amendments to the claims overcome the objections.

4. The 112, second paragraph rejections to claims 1-6 are withdrawn as the amendments to the claims overcome the rejections.

Response to Arguments

5. Applicant's arguments filed December 1, 2004 have been fully considered but they are not persuasive.

6. Regarding applicant's argument the prior art of record does not teach using N bits greater than one to create a multi-carrier data symbol as recited in the independent claims, specifically:

Moroney et al. disclose, *inter alia*, that a duration indication Y and a frequency indication n are used by a frequency indication counter (50) to extract a bit from the keystream on every n-th count. See, e.g., col. 3, lines 57-60 of Moroney et al. Even if one considers the bits that are not captured by the byte register (54) to be part of the pseudo-random bit string (i.e., N') that is delineated for creating a multi-carrier data symbol, the combination of Moroney et al. and AAPA only discloses using a single bit (i.e., N=1) from that bit string for symbol creation. (See Remarks, pg. 12, 1st full paragraph)

7. Examiner respectfully disagrees. The generation of the pseudo-random value as disclosed by Moroney was interpreted as follows: a cycle of data, L bits, is isolated (see Moroney, col. 3:46), the L bits is divided into strings of N' bits (see Moroney, col. 3:49-50, $N' = L - Y$, wherein Y is discarded from the keystream); then N bits, N=8, out of each string of N' is used to generate the random value (see Moroney, col. 3:57-62; a single bit every n bits is input into the byte register until the bit counter reaches 8). Hence, Moroney discloses using N bits greater than one to generate the random value.

8. In response to applicant's argument that no motivation is taught or suggested as required by rulings of *In re Dembiczak* and *In re Zurko* (see Remarks, pg. 13, 1st sentence), examiner disagrees: the motivation to combine enables greater randomness in a pseudo-random number generator as taught by Moroney, col. 1, lines 49-65, which

is known to be a desirable quality of multi-carrier data symbols as taught by admission.
See substitute Specification, pg. 2, paragraph 2.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., use of consecutive bits with the delineated bit string [see Remarks, pg. 12, 1st full paragraph, 6th sentence) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. Finally, applicant's arguments of the 103 rejections to claims 2-4 and 6 are based on the arguments of the rejection of claim 1; hence, claims 1-4 and 6 are not found to be patentably distinct from the prior art of record.

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1-4, 6, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moroney et al. U.S. Patent No. 5,054,067 (hereinafter Moroney) in

view of admitted prior art in applicant's substitute Specification entered December 1, 2004 (hereinafter Admission).

13. As per claim 1, Moroney discloses a method to generate a pseudo-random sequence of data symbols (see Moroney, Figure 2), the method comprising:

- a. producing a pseudo-random bit sequence by repetitively generating a pseudo-random sequence of L bits, L being a first integer value (see Moroney, col. 3, line 46);
- b. packetizing into data symbols thereby using N bits of the pseudo-random bit sequence per data symbol, N being a second integer number, to thereby generate the pseudo-random sequence of data symbols, characterized in that the packetizing comprises:
 - i. dividing the pseudo-random bit sequence into strings of N' bits, N' being a third integer value larger than N (see Moroney, col. 3, lines 49-62); and
 - ii. using N bits out of each string of N' to generate a data symbol out of the pseudo-random sequence of data symbols, and leaving N'-N bits out of each string of N' bits unused (see Moroney, col. 3, lines 24-25 and 49-62; only 8 bits of the N' bits are used).

14. Moroney does not disclose the pseudo-random sequence is generated for multi-carrier data symbols. Admission teaches generating a pseudo-random sequence of multi-carrier data symbols as listed in the ADSL standard specification published in

1998. See Admission, page 2, 2nd paragraph. It would be obvious to one of ordinary skill in the art at the time the invention was made to generate a pseudo-random sequence of multi-carrier data symbols using the randomizing steps listed above to further increase the randomness of the sequence. See Moroney, col. 1, lines 49-65. The aforementioned cover the limitations of claim 1.

15. As per claim 2, it is an apparatus claim corresponding to claim 1 and it does not teach or define above the information claimed in claim 1. Therefore, claim 2 is rejected as being unpatentable over Moroney in view of Admission for the same reasons set forth in the rejection of claim 1.

16. As per claim 3, Moroney covers a generator as outlined above in the claim 2 rejection under 35 U.S.C. 103(a). In addition, a multi-carrier transmitter comprises the pseudo-random sequence generator and further comprising transmitting means, coupled to the pseudo-random sequence generator, and adapted to transmit a pseudorandom sequence of multi-carrier symbols generated by the pseudo-random sequence generator over a communication channel. See Moroney, Figure 2, Reference Nos. 40 and 54. The aforementioned cover the limitations of claim 3.

17. As per claim 4, Moroney covers an apparatus as outlined above in the claim 3 rejection under 35 U.S.C. 103(a). In addition, the apparatus is characterized in that the multi-carrier transmitter further comprises selection means, adapted to select the third

integer value N', and communication means coupled to the selection means, and adapted to communicate the third integer value N' to a multi-carrier receiver. See Moroney, Figure 2, Reference No. 48, 'Y'. The aforementioned cover the limitations of claim 4.

18. As per claim 6, Moroney covers an apparatus as outlined above in the claim 2 rejection under 35 U.S.C. 103(a). In addition, a multi-carrier receiver comprises the pseudo-random sequence generator, and further comprising receiving means adapted to receive a first pseudo-random sequence of multi-carrier symbols transmitted over a communication channel, and decoding means, coupled to the receiving means and to the pseudo-random sequence generator, and adapted to decode the first pseudo-random sequence of multi-carrier symbols and a second pseudo-random sequence of multi-carrier symbols generated by the pseudo-random sequence generator. See Moroney, col. 4, lines 62-67. The aforementioned cover the limitations of claim 6.

19. As per claims 8-10 and 12, they are apparatus claims corresponding to claims 1-4 and 6, and they do not teach or define above the information claimed in claims 1-4 and 6. Therefore, claims 8-10 and 12 are rejected as being unpatentable over Moroney in view of Admission for the same reasons set forth in the rejections of claims 1-4 and 6.

Allowable Subject Matter

20. Claims 5, 7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W Kim whose telephone number is (571) 272-3804. The examiner can normally be reached on M-F 9:00-5:00.

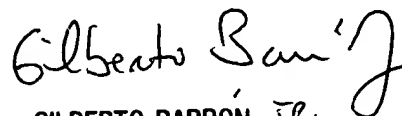
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jung W Kim
Examiner
Art Unit 2132

Jk
February 17, 2005



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